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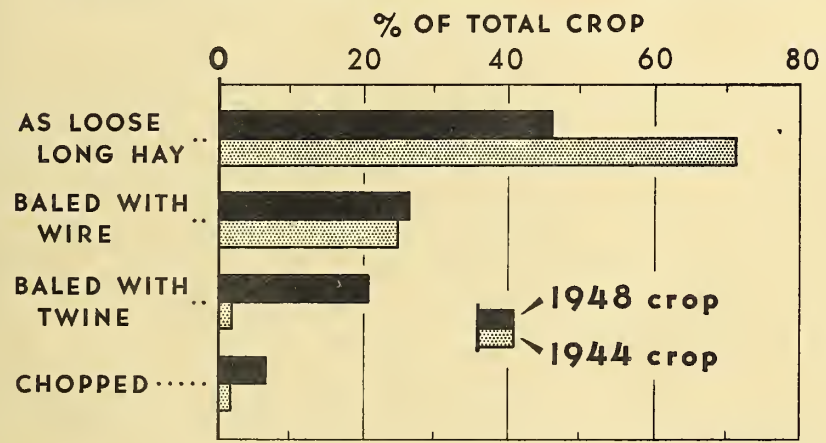
Harvesting

HAY AND



SILAGE

HAY HARVESTED BY SPECIFIED METHODS, 1948 and 1944 CROPS



BAE 47691-XX

SOURCE OF MATERIAL

The information in this report relative to methods of harvesting hay and silage was obtained from the voluntary crop reporters of the United States Department of Agriculture, in February 1949. A mailed questionnaire was used. They reported the 1948 production on their farms of hay, corn silage, sorghum silage, grass silage, and all other silage. For their hay they reported the number of tons baled with wire balers and with twine balers, tons chopped, and tons used or sold as loose, long hay. For silage they reported the tons harvested with field forage harvesters and with stationary cutters.

More than 20,000 farms were covered in the survey. On these farms about 800,000 tons of hay, 350,000 tons of corn silage, 75,000 tons of sorghum silage, 55,000 tons of grass silage, and 12,000 tons of miscellaneous silage were harvested in 1948.

Findings of the April 1948 enumerative survey relative to the distribution of haying machines, and of hay production between farms producing various amounts of hay are also included in this report. The survey covered around 12,000 farms in 872 counties. The farms were selected so as to obtain data representative of the entire country and for major geographic areas. Results of this survey as regards numbers of farm machines were published in a processed report of the Bureau of Agricultural Economics, "Farm Machinery," on March 15, 1949.

HARVESTING HAY AND SILAGE

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PRELIMINARY

This report contains estimates, by States, of the form in which the 1948 hay crop was fed or sold. It contains estimates of the extent of use of field forage harvesters and stationary cutters for harvesting the different kinds of silage. Findings of earlier studies, as to harvest methods, are included to provide a measure of the changes in recent years in harvesting practices of hay and corn silage.

In addition, this report contains the results of the enumerative survey of 12,000 farms made in late April and early May 1948 relative to the distribution of hay production and haying machines, by regions, and by the quantity of hay harvested per farm.

FARMS PRODUCING HAY

Hay is one of our most important crops. In recent years, the harvested hay crop has approximated 70 million acres annually. This, in most years, is exceeded only by the harvested acreage of corn. Of the area in harvested crops, almost 20 percent is accounted for by the hay crop.

Production of hay is widespread. It is grown in all parts of the country, but it is of relatively little importance in the South where livestock are few and the winters are short and relatively mild.

There were about 5,860,000 farms in the United States in 1945 (table 1.) More than 60 percent of the sample farms surveyed in May 1948 harvested some hay in 1947. The South, with about 48 percent of all farms in 1945, harvested less than one-sixth of the 1947 hay tonnage. It had more than one-fourth of the total mowers, and about 10 percent of the side-delivery rakes.

Table 1.- Number of farms, quantity of hay harvested in 1947, and specified haying machines on farms, May 1, 1948, by regions

Region	Farms		Harvest--With one or:		Hay	:Haying machines on farms, May 1, 1948 1/		
	Total	: ing hay	: more mowers:	harvested	:	:	:	
	(1945	: 1947	: May 1948	: 1947	: Power	:Traction	:Total	
: Census)	: 2/	: 1/	: 3/	:	:	:	: delivery	
: Thousands	Thousands	Thousands	1,000 tons	Thousands	Thousands	Thousands	Thousands	
Northeast 4/	548.4	395	345	15,251	86	276	362	
North Central 5/	1,985.8	1,530	1,415	49,738	394	1,163	1,557	
South 6/	2,830.5	1,415	700	16,402	153	616	769	
West 7/	494.4	246	215	21,374	127	155	282	
United States	5,859.1	3,586	2,675	102,763	760	2,210	2,970	
							850	

1/ From the 1948 enumerative survey made in late April and early May.

2/ Obtained by multiplying the percentage of farms harvesting hay as shown by the April enumerative survey by the 1945 census number of farms.

3/ Official estimate of the crop reporting board.

4/ See table 3 for States included in this group.

5/ Includes the Corn Belt, Lake, and Plains States of table 3.

6/ Includes the Appalachian, Southeast, the Delta States, and Oklahoma-Texas of table 3.

7/ Includes the Mountain and Pacific Coast States of table 3.

Almost half of the country's hay crop of 1947 was harvested in the North Central States. The quantity of hay harvested per farm in these States varied widely. Although only 5 percent of the farms in this region harvested 100 or more tons of hay in 1947, these farms produced about 26 percent of the hay of the region. They had less than 10 percent of the total number of mowers and side-delivery rakes. Farms producing 100 and more tons accounted for almost 75 percent of the hay crop in the West and about one-third of the crop of the Northeastern States (table 2). About 38 percent of all farms of the country harvested some hay but less than 25 tons per farm in 1947. These farms had about 18 percent of the total hay, more than 40 percent of the total mowers, and more than 25 percent of the side-delivery rakes.

Farms harvesting less than 10 tons of hay each accounted for about one-fifth of the hay crop of the South, but such farms accounted for only a small part of the crop in other regions.

Farms harvesting small tonnages of hay accounted for a relatively large proportion of the traction mowers (pull-type mowers) while the power mowers (cutter bar operated with tractor power) tended to be concentrated on farms that harvest above-average quantities of hay.

About 13 percent of the total mowers and 7 percent of the side-delivery rakes, as of May 1, 1948, were on farms on which no hay was harvested in 1947.

BALING OF HAY

Outstanding in the last decade has been the increase in the baling of hay. In 1939 only 14.5 percent of the total hay crop was baled, and only 2.5 percent was baled with windrow-pickup balers. 1/

Almost 27 percent of the 1944 hay crop was baled, and about half of the baling was done with windrow-pickup balers. About 47 percent of the 1948 crop was baled. Of the hay baled in 1948, about 55 percent was done with wire balers and the remainder with twine balers. The use of twine balers has increased rapidly in the last several years. Slightly more than one-fifth of the 1948 hay was baled with twine. Practically no hay was baled with twine balers in 1939, and only about 2 percent of the 1944 crop. (See chart on cover page.)

More than 25 percent of the 1948 crop was handled with wire balers. They are used in all parts of the country. They are used extensively in areas where an appreciable part of the crop is sold and transported considerable distances (fig. 1). In 1948, most of the Western and Plains States and in the South, more hay was baled with wire balers than with twine balers.

1/ Harvesting the Hay Crop. U. S. Bur. Agr. Econ. F. M. 57, 22 pp., illus. 1946. (Processed.)

Table 2.- Percentage distribution of farms and hay machinery May 1948, and hay production by regions and by hay harvested per farm, 1947 ^{1/}

	Farms			Machines on farms, May 1, 1948			
Item	Total	With one or more mowers	Hay harvested	Power	Mowers	Traction	Side-delivery rakes
	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Hay harvested per farm:							
Northeast							
None	28	11		10	10	10	5
Less than 10 tons	16	13	3	8	13	12	4
10 - 24 "	19	22	10	12	24	22	16
25 - 49 "	16	22	19	18	22	21	24
50 - 99 "	15	23	34	29	22	23	32
100 and over "	6	9	34	23	9	12	19
North Central							
None	23	13		13	12	12	6
Less than 10 tons	12	11	2	5	11	10	5
10 - 24 "	24	28	14	20	28	26	22
25 - 49 "	24	26	29	26	30	29	35
50 - 99 "	12	16	29	22	14	16	24
100 and over "	5	6	26	14	5	7	8
South							
None	50	18		19	16	17	10
Less than 10 tons	34	36	21	17	37	33	21
10 - 24 "	10	26	24	17	28	26	23
25 - 49 "	4	12	20	19	11	12	22
50 - 99 "	1	5	15	15	4	6	14
100 and over "	1	3	20	13	4	6	10
West							
None	50	16		18	11	14	14
Less than 10 tons	8	8	1	5	8	7	4
10 - 24 "	11	14	4	9	15	12	7
25 - 49 "	12	21	9	17	19	18	15
50 - 99 "	8	17	12	15	18	17	15
100 and over "	11	24	74	36	29	32	45
United States							
None	38.8	14.2		14.7	12.8	13.2	6.9
Less than 10 tons	22.7	17.6	5.1	7.7	18.4	16.0	6.5
10 - 24 "	15.7	25.6	12.9	16.7	26.6	24.3	20.0
25 - 49 "	12.6	21.4	21.9	22.2	22.9	22.6	30.3
50 - 99 "	6.6	14.1	23.9	20.2	12.4	14.3	23.4
100 and over "	3.6	7.1	36.2	18.5	6.9	9.6	12.9

^{1/} Data from the April 1948 enumerative survey.

HAY BALED WITH WIRE, 1948

Percentage by Crop Reporting Districts

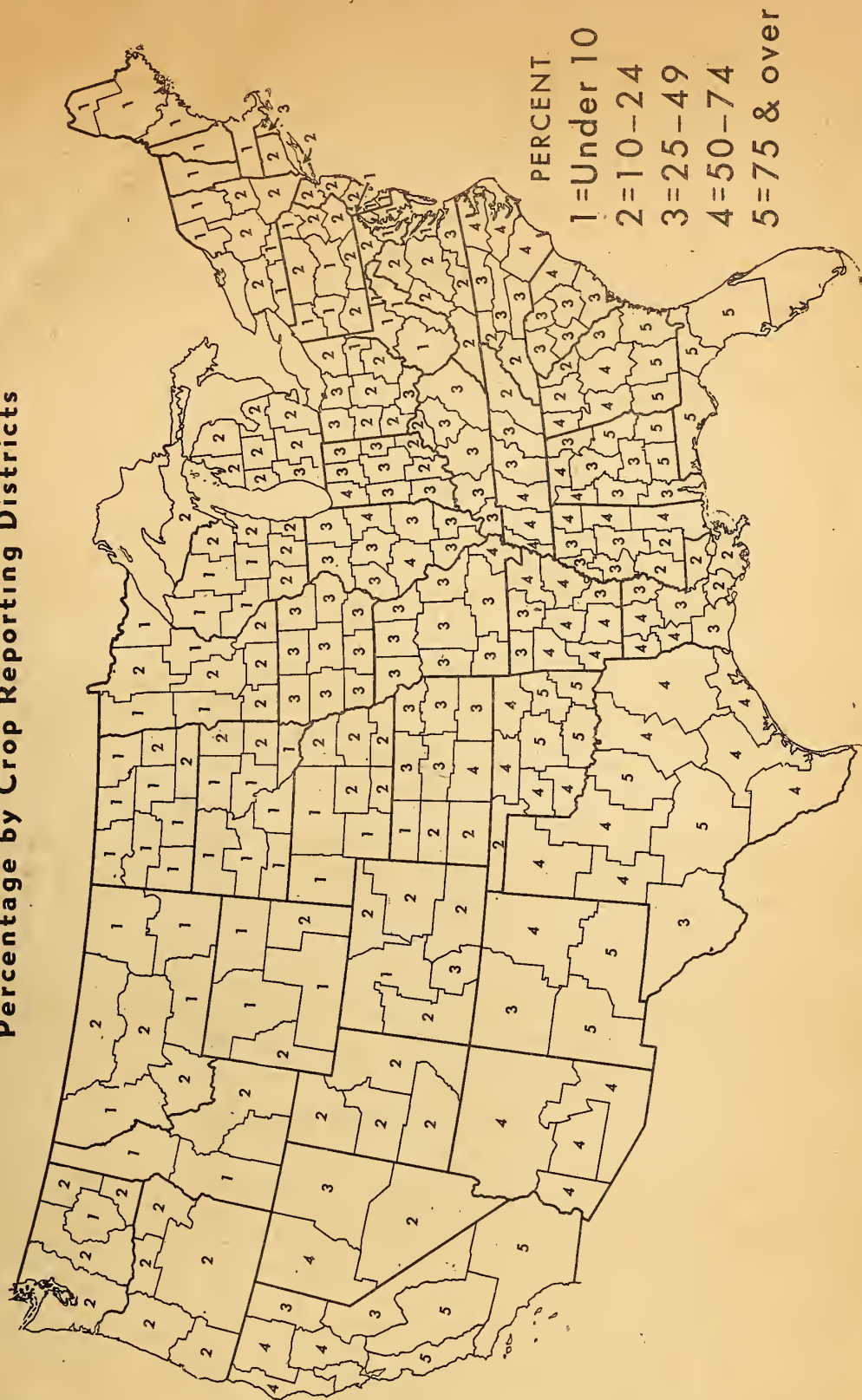


Figure 1

Use of twine balers was most important in the Northeast States. In many areas of the North Central and Appalachian States more than 25 percent of the 1948 hay crop was baled with twine (fig. 2). Here the bulk of the hay is fed on the farm where produced.

The 1948 study provides no definite estimate of the use of windrow-pickup and stationary balers but it is likely that at least 75 percent of the baling was done with pick-up balers. All of the twine balers are pick-up balers, and probably more than half of the hay baled with wire balers was with the pick-up balers. About 13 percent of the 1944 crop was baled with stationary balers. Probably this type of baler was used less in 1948 than in 1944, as on many farms windrow-pickup balers have since displaced the stationary balers.

LOOSE, LONG HAY, AND CHOPPED HAY

Until fairly recently, most of the hay fed on farms has been loose, long hay. In 1944, more than 70 percent of the farm-cured hay was loose, long hay. This compares with 46 percent for the 1948 crop. This decrease reflects the increased baling and chopping of hay.

More than half of the 1948 hay in the Plains, the Lake, and the Mountain States was loose, long hay, as was an appreciable part of the crop in most States (table 3). In some areas of the Plains and Mountain States, 75 percent or more of the 1948 hay crop was fed or sold as loose, long hay (fig. 3).

The numbers of field forage harvesters on farms have increased since 1944 and there has been an increase in the chopping of hay. Of the 1944 hay crop, less than 2 percent was chopped, but almost 7 percent of the 1948 hay crop was chopped.

Chopping of hay is most important in the dry areas of the West and in Wisconsin and Iowa. Only a small percentage of the hay is chopped in the South or in most humid areas of the East and North (fig. 4).

HAY HARVESTED PER FARM

The tonnage harvested per farm has a decided influence on the method used. In all State groups, a higher percentage of the 1948 hay was fed or sold as loose, long hay on farms harvesting small tonnages than was the case for farms harvesting large tonnages (table 4).

Most farmers with a small quantity of hay to harvest have to rely on custom operators or hired machines for baling and chopping whereas usually their own equipment can be used with loose, long hay. However, in most areas an important part of the hay on small farms was baled, which indicates that custom balers are in extensive use.

HAY BALED WITH TWINE, 1948

Percentage by Crop Reporting Districts

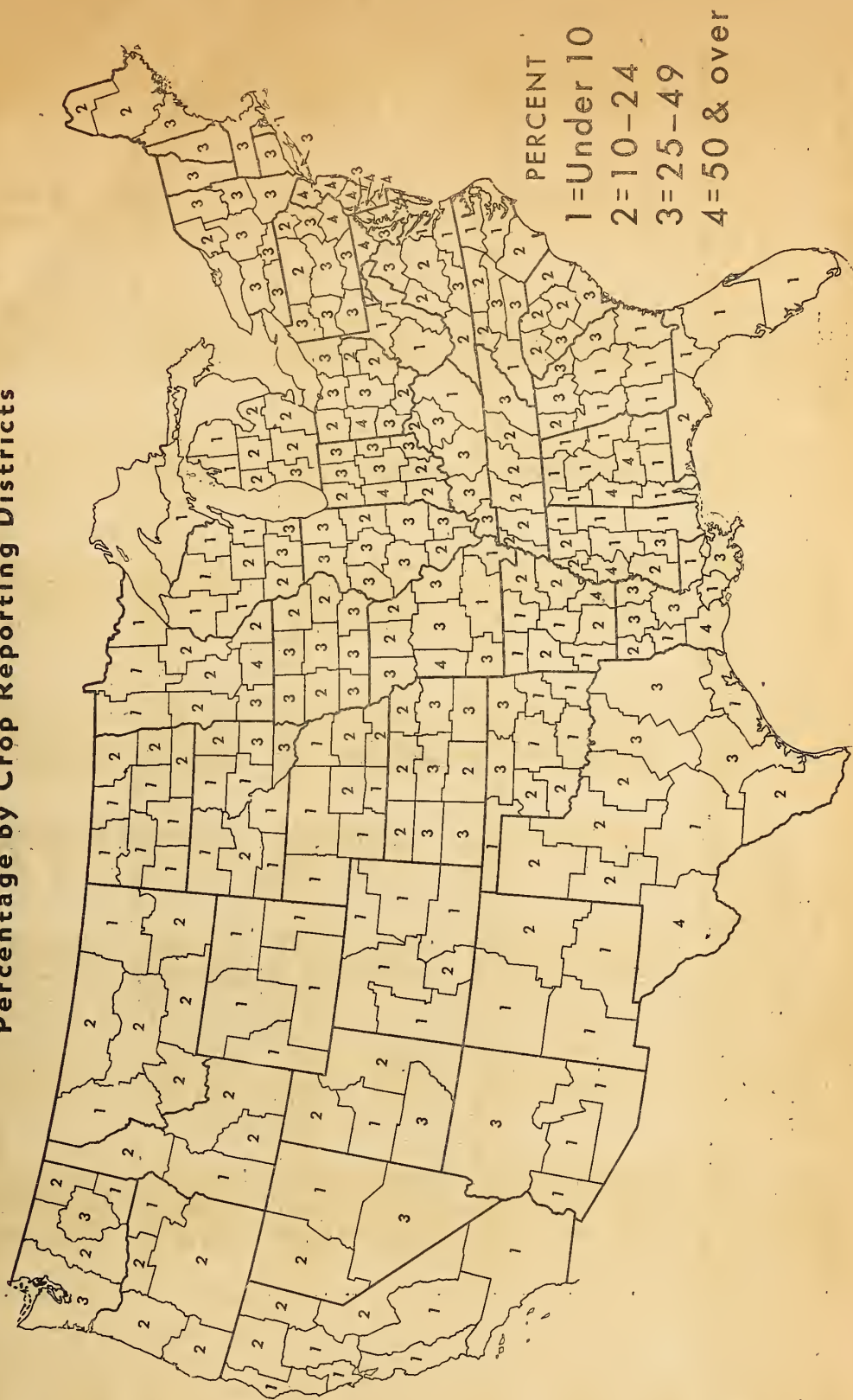


FIGURE 2

Table 3.- Form in which hay was sold or fed, by States, 1944 and 1948 - Continued

State and group	: Percentage of 1944 crop				: Percentage of 1948 crop			
	Production: of hay 1944	Station: ary	Baled	: Pick-up: balers	Production: of hay 1948	Wire balers	Twine balers	: Loose : Chopped : long hay
	1,000 tons	Percent	Percent	Percent	1,000 tons	Percent	Percent	Percent
South Carolina	404	35.9	2.6	1/	461	49.0	17.0	2.0
Georgia	689	35.6	4.6	1/	805	63.0	9.0	3.0
Florida	64	50.8	4.0	1/	69	78.0	6.0	3.0
Alabama	729	50.2	2.4	1/	700	59.0	11.0	1.4
Southeast	1,886	41.8	3.3	1/	2,035	59.0	11.4	2.2
Mississippi	1,105	31.2	8.6	1/	1,011	50.0	12.0	.5
Louisiana	397	32.6	9.5	1/	369	41.0	23.0	2.0
Arkansas	1,529	45.3	7.7	1/	1,887	56.0	14.0	1.0
Delta States	3,031	38.5	8.3	1/	3,267	52.5	14.4	.9
Oklahoma	1,668	35.8	30.4	1/	2,010	70.0	17.0	2.0
Texas	1,359	51.5	19.0	1/	1,311	60.0	17.0	1.5
Okla.-Texas	3,027	42.8	25.3	1/	3,321	66.1	17.0	1.8
Montana	2,671	4.2	3.3	1.7	2,964	9.0	12.0	5.0
Idaho	2,445	2.9	7.3	7.1	2,353	11.0	14.0	19.0
Wyoming	1,312	5.5	4.0	.1	1,018	11.0	4.0	10.0
Colorado	2,331	9.8	3.5	1.5	2,375	17.0	6.0	13.0
New Mexico	479	34.1	25.7	1.0	499	70.0	5.0	13.0
Arizona	723	14.6	66.7	2.0	541	65.0	8.0	17.0
Utah	1,245	6.3	15.6	3.1	1,134	18.0	21.0	8.0
Nevada	617	3.8	26.3	4.3	649	50.0	17.0	5.0
Mountain	11,823	7.2	11.5	2.9	11,533	19.7	11.1	11.2
Washington	1,775	13.7	9.3	12.5	1,759	21.0	21.0	21.0
Oregon	1,996	11.9	14.7	7.7	2,000	20.0	16.0	22.0
California	5,940	29.0	29.6	6.7	5,718	75.0	3.0	12.0
Pacific	9,711	22.7	22.8	8.0	9,477	53.4	9.1	15.8
United States	102,745	13.2	13.7	1.8	99,471	26.5	20.7	6.7
1/ No information obtained.								

1/ No information obtained.

HAY FED OR SOLD AS LOOSE LONG HAY, 1948

Percentage by Crop Reporting Districts

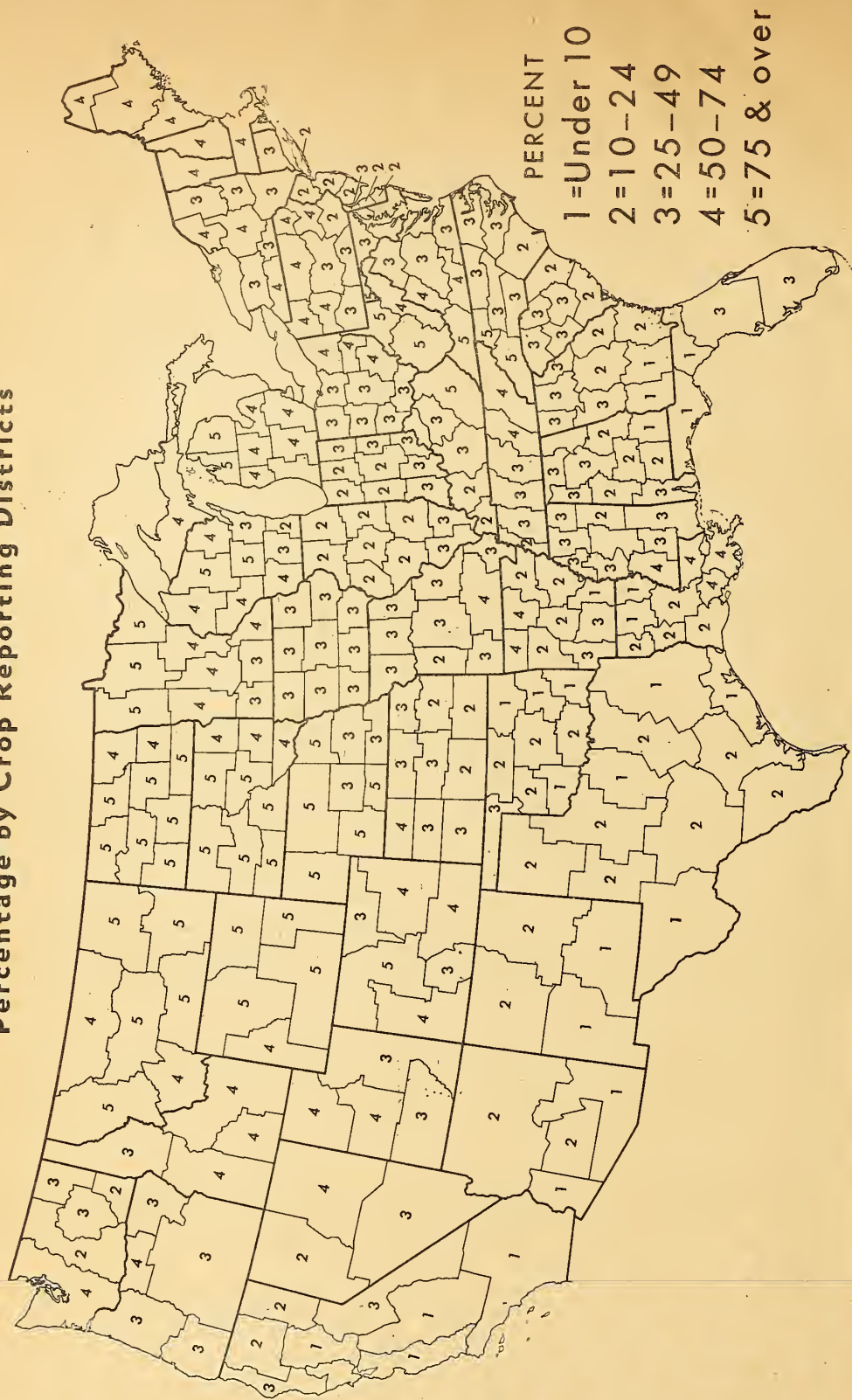


FIGURE 3

HAY CHOPPED, 1948

Percentage by Crop Reporting Districts

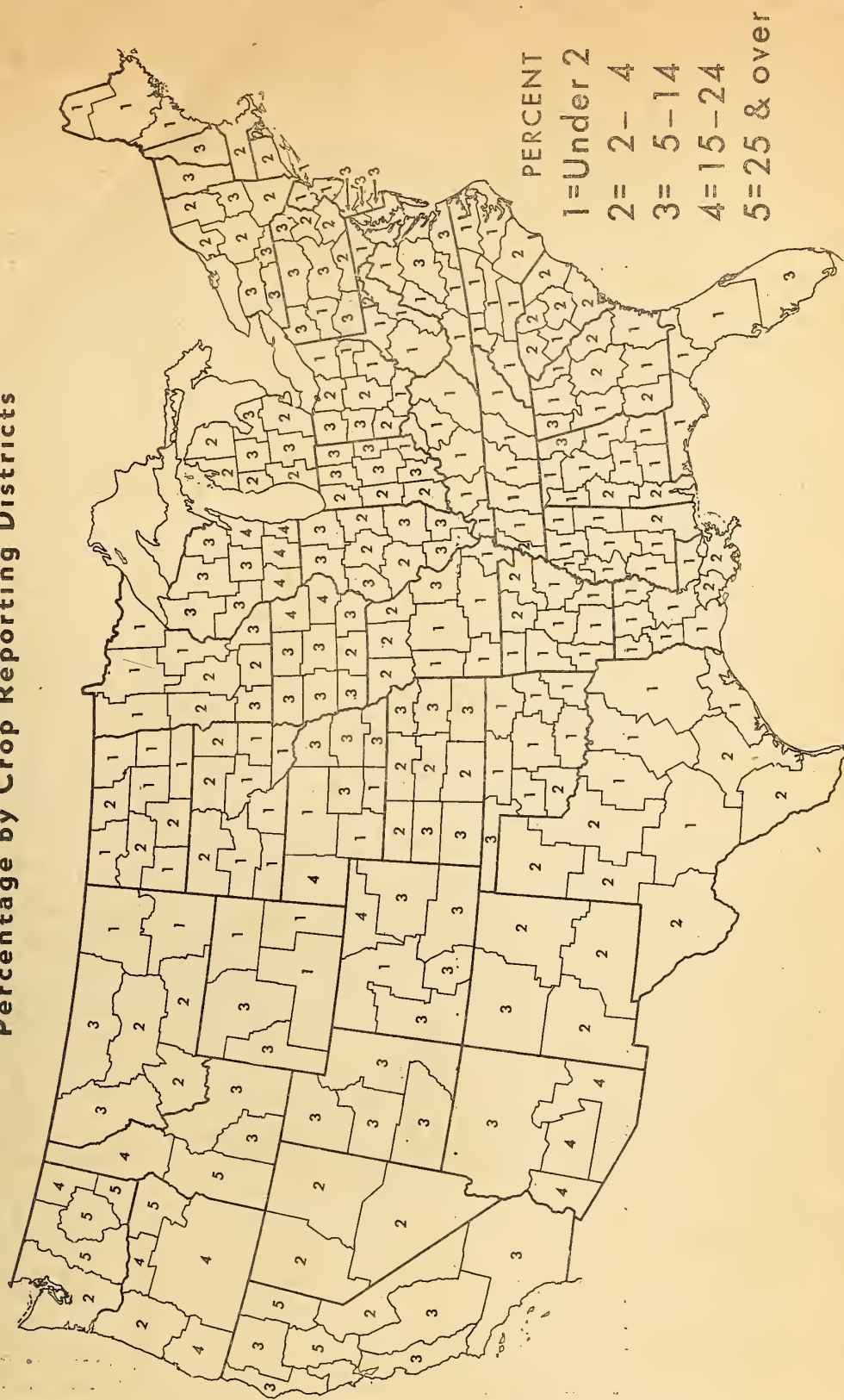


Figure 4

Table 4.- Form in which hay is fed or sold on farms harvesting specified quantities of hay in 1948

Item	Percentage of the 1948 hay				
	Hay harvested:	Wire	Twine	Loose	
	in 1948	baled	baled	Chopped	or long
	1,000 tons	Percent	Percent	Percent	Percent
Hay harvested per farm					
Northeast					
Less than 10 tons	450	12	34	2	52
10 - 24 "	1,505	13	32	1	54
25 - 49 "	2,855	11	30	2	57
50 - 99 "	5,110	10	33	4	53
100 and over "	5,105	10	44	5	41
All farms	15,025	10.5	36.1	3.6	49.8
Corn Belt					
Less than 10 tons	540	27	27	1	45
10 - 24 "	3,602	29	26	3	42
25 - 49 "	5,585	29	27	4	40
50 - 99 "	4,860	32	29	8	31
100 and over "	3,420	39	34	10	17
All farms	18,007	31.7	28.7	6.0	33.6
Lake States					
Less than 10 tons	285	15	29	2	54
10 - 24 "	1,705	15	19	4	62
25 - 49 "	4,830	12	14	4	70
50 - 99 "	4,830	11	17	12	60
100 and over "	2,559	22	28	21	29
All farms	14,209	13.9	18.4	9.8	57.9
Great Plains					
Less than 10 tons	142	20	10	2	68
10 - 24 "	1,280	17	14	3	66
25 - 49 "	2,843	19	12	3	66
50 - 99 "	3,695	16	12	4	68
100 and over "	6,250	16	17	5	62
All farms	14,210	16.7	14.4	4.1	64.8
Appalachian					
Less than 10 tons	1,510	30	11	1	58
10 - 24 "	2,095	28	19	1	52
25 - 49 "	2,015	25	26	2	47
50 - 99 "	1,595	27	29	1	43
100 and over "	1,172	25	34	5	36
All farms	8,387	27.0	23.3	1.8	47.9
Southeast					
Less than 10 tons	814	53	6	1	40
10 - 24 "	488	60	11	2	27
25 - 49 "	204	62	14	3	21
50 - 99 "	163	60	17	6	17
100 and over "	366	69	20	3	8
All farms	2,035	59	11.4	2.2	27.4

- Continued -

Table 4.- Form in which hay is fed or sold on farms harvesting specified quantities of hay in 1948 - Continued

Item	Hay harvested in 1948	Percentage of the 1948 hay			
		Wire baled	Twine baled	Chopped	Loose or long
	1,000 tons	Percent	Percent	Percent	Percent
Hay harvested per farm					
Delta					
Less than 10 tons	686	38	8	1	53
10 - 24 "	784	48	11	-	41
25 - 49 "	653	63	11	1	25
50 - 99 "	392	57	18	2	23
100 and over "	752	59	25	1	15
All farms	3,267	52.5	14.4	.9	32.2
Oklahoma-Texas					
Less than 10 tons	531	58	11	1	30
10 - 24 "	697	64	16	1	19
25 - 49 "	598	66	14	1	19
50 - 99 "	400	70	20	2	8
100 and over "	1,095	70	21	3	6
All farms	3,321	66.1	17.0	1.8	15.1
Mountain					
Less than 10 tons	115	9	5	10	76
10 - 24 "	461	13	12	7	68
25 - 49 "	1,153	17	9	10	64
50 - 99 "	1,615	18	8	14	60
100 and over "	8,182	21	12	11	56
All farms	11,533	19.7	11.1	11.2	58.0
Pacific					
Less than 10 tons	95	21	6	9	64
10 - 24 "	379	21	10	13	56
25 - 49 "	758	30	15	13	42
50 - 99 "	948	31	13	16	40
100 and over "	7,297	61	8	16	15
All farms	9,477	53.4	9.1	15.8	21.7
United States					
Less than 10 tons	5,168	34	14	2	50
10 - 24 "	12,996	27	21	3	49
25 - 49 "	21,494	23	20	4	53
50 - 99 "	23,608	21	22	7	50
100 and over "	36,205	31	21	10	38
All farms	99,471	26.5	20.7	6.7	46.1

Distribution of the 1948 hay by farms harvesting specified tonnages as shown in the above table are only approximate. They were developed from table 2 and from the reports of the crop correspondents. The reports from the crop correspondents were tabulated by State groups according to the hay harvested per farm in 1948. The State group figures were then adjusted to the regional level of table 2.

In most State groups, a much higher percentage of the hay was chopped on farms harvesting large tonnages of hay than was the case on farms with small quantities of hay. Usually little hay was chopped on the farms harvesting small tonnages of hay.

In all State groups a higher percentage of the hay was baled on farms producing 100 or more tons of hay than on farms producing smaller quantities. Use of twine balers in the Northeast and Appalachian States was relatively important on farms that harvested large tonnages. In the West, the Corn Belt, and the South, wire balers were used to a greater extent on the large hay farms than on the small farms.

CORN AND SORGHUM SILAGE

Corn silage and sorghum silage are the only kinds for which official production estimates are available.

Corn is the principal source of silage. In the last 30 years, production of corn silage has ranged from a low of about 27 million tons in 1919 to a high of about 37.5 million tons in 1935. The 1948 crop of corn silage of 35,521,000 tons was slightly above the average crops of 1944-48. Annual estimates of the production of sorghum silage are available from 1929 to date. From 1929 to 1931, production averaged around 660,000 tons annually. During the last 20 years production has ranged from a high of about 7,900,000 tons in 1941 to about 575,000 tons in 1930. The 1948 crop was about 8 percent above the average production of 1944-48 but below that of 1937-48.

The usual practice in harvesting corn and sorghum silage has, until recent years, been to cut the stalks and to haul them to a stationary cutter for processing for silage. For cutting the stalks in the field, row crop binders were usually used, although some cutting was done with animal drawn sleds and by hand methods. Small quantities of corn and sorghum silage have for years been harvested with the field harvester. With this machine the standing stalks were cut and chopped or processed in the field for storing in the silo.

The first field harvesters were used only with the row crops. Cost per ton for machine use was often high as the machine was used only a short time each year. In recent years a new type of field forage harvester has come into use. Many of these machines are adapted for both row crops and hay crops, as they can be equipped with both row crop attachments and attachments for hay crops. With the hay attachments grass or wilted hay for silage, dehydrating or for barn curing, and cured hay and straw can be chopped in the field, usually from the windrow. The wider adaptability of field forage harvesters has resulted in an increase in annual use of these machines. The cost per hour of machine use decreases with increases in annual use of the machine.

A Nation-wide study indicated that 9 percent of the corn silage produced in 1943 was harvested with field forage harvesters. ^{2/} Use of these harvesters has since greatly increased and they accounted for about 32 percent of the 1948 corn silage (table 5).

^{2/} Harvesting the Corn Crop. U. S. Bur. Agr. Econ. F.M. 49, 28 pp., illus. 1945. (Processed.)

Table 5.- Percentage of corn and sorghum silage harvested with field forage harvesters and stationary cutters, 1948

State and area	Corn silage			Sorghum silage		
	Harvested with -			Harvested with -		
	Production:	Field :	Station-	Production:	Field :	Station-
	1948	forage :	ary :	1948	forage :	ary :
		har-	ary		har-	ary
		vester :	cutter :		vester :	cutter
	1,000 tons	Percent	Percent	1,000 tons	Percent	Percent
New England	1,332	20	80			
New York	4,360	20	80			
New Jersey	522	36	64			
Pennsylvania	2,270	21	79			
Delaware	28	30	70			
Maryland	332	30	70			
Northeast	8,844	22	78			
Ohio	1,183	40	60			
Indiana	432	55	45	23	44	56
Illinois	1,754	55	45	32	60	40
Iowa	1,969	56	44	28	55	45
Missouri	339	25	75	340	23	77
Corn Belt	5,677	50	50	423	29	71
Michigan	1,909	24	76			
Wisconsin	10,166	30	70			
Minnesota	4,842	30	70	16	30	70
Lake States	16,917	29	71	16	30	70
North Dakota	533	60	40	3	62	38
South Dakota	308	45	55	28	40	60
Nebraska	200	65	35	99	55	45
Kansas	294	40	60	2,789	60	40
Great Plains	1,335	53	47	2,919	60	40
West Virginia	80	12	88			
Kentucky	153	20	80			
Tennessee	128	10	90	52	20	80
Virginia	518	18	82			
North Carolina	168	4	96			
Appalachian	1,047	15	85	52	20	80
South East	184	4	96	97	6	94
Delta	57	5	95	170	7	93
Oklahoma	24	30	70	324	60	40
Texas	66	30	70	325	60	40
Okla.-Texas	90	30	70	649	60	40
Idaho	84	55	45	-	-	-
Colorado	546	75	25	42	60	40
Arizona	30	75	25	110	75	25
Utah	142	60	40	-	-	-
Other	109	70	30	11	75	25
Mountain	911	70	30	163	71	29
Washington	94	40	60	-	-	-
Oregon	90	50	50	-	-	-
California	275	62	38	40	70	30
Pacific	459	55	45	40	70	30
United States	35,521	32	68	4,529	54	46

Half or more of the corn silage of the Corn Belt, the Plains, the Mountain and the Pacific Coast States was harvested with field forage harvesters. Use of the field harvester was somewhat below average in the important Lake States, where almost half of the 1948 corn silage was produced, and in the Northeast States. In most Southern areas, little silage is produced and stationary cutters are usually used. In all areas of the country, use of the field forage harvester increased as the tonnage of corn silage harvester per farm increased (table 6). However, a considerable number of farmers harvesting small tonnages of silage used field forage harvesters. Likely, many of them hired custom operators for harvesting their silage.

Table 6.- Percentage of corn silage harvested with field forage harvesters and stationary cutters, by State groups and by quantity of corn silage harvester per farm, 1948

Region	Corn silage per farm							
	Less than 50 tons		50 - 99 tons		100 - 199 tons		200 tons and more	
	Field:		Field:		Field:		Field:	
	forage:Station-		forage:Station-		forage:Station-		forage:Station-	
	har- : ary		har- : ary		har- : ary		har- : ary	
	vester:cutter		vester:cutter		vester:cutter		vester:cutter	
	Per-	Per-	Per-	Per-	Per-	Per-	Per-	Per-
	cent	cent	cent	cent	cent	cent	cent	cent
Northeast	6	94	16	84	22	78	53	47
Corn Belt	34	66	48	53	49	52	67	33
Lake States	16	84	22	78	30	70	53	47
Plains	40	60	44	56	55	45	62	38
South ^{1/}	3	97	10	90	28	72	30	70
West ^{2/}	27	73	47	53	67	33	85	15
United States	18	82	27	73	35	65	58	42

^{1/} Includes Oklahoma-Texas, the Delta, the Southeast, and the Appalachian States.

^{2/} Includes the Mountain and the Pacific Coast States.

Sorghum silage is widely grown, but the bulk of the 1948 crop was produced in the Plains States where the use of the field forage harvester is above the average. More than half of the 1948 sorghum silage was harvested with the field forage harvester.

GRASS SILAGE AND ALL OTHER SILAGE

Production of grass silage in 1948 as indicated by the crop correspondents' reports, was about 5,000,000 tons. More than 55 percent of this tonnage was in the Northeast States, about 15 percent in the Lake States, about 10 percent in the Corn Belt, and 10 percent in the Pacific States. Some production was reported, however, in all State groups. Grass silage

includes silage from all hay crops and from small grain crops. Most of the grass silage is produced in the more humid northern dairy areas of the country where weather conditions often are unfavorable for the field curing of hay (fig. 5). In all areas, a larger percentage of the grass silage than of corn silage was harvested with the field forage harvester. About 40 percent of the 1948 grass silage was harvested with the field harvester (table 7).

Farm production of miscellaneous silage in 1948, based on the crop correspondents' reports, was somewhat less than 1,000,000 tons. The Lake States, the Northeast, and the Pacific States together accounted for about 75 percent of the 1948 production. Small quantities were reported, however, in each of the remaining State groups. A wide variety of crops and products was used in producing this silage. However, the bulk of the production in most areas was from byproducts of canning plants, especially sweet corn and peas, and from stalks of sweet corn remaining in the field after the ears were harvested. Considerable of the tonnage of the miscellaneous silage is stored in farm silos as it comes from the canning plant without processing. Of the miscellaneous silage crops processed for silage on the farm, more than 80 percent of the cutting was done with stationary cutters.

Table 7.- Grass silage and all other silage harvested with stationary cutters and field forage harvesters in 1948, by State groups

Area	Grass silage		All other silage	
	Harvested with -		Harvested with -	
	Field	Stationary	Field	Stationary
	forage	cutter	forage	cutter
	harvester	harvester	harvester	harvester
	Percent	Percent	Percent	Percent
Northeast	30	70	18	82
Corn Belt	68	32	5	95
Lake States	53	47	30	70
Great Plains	70	30	35	60
Appalachian	30	70	5	95
South East	20	80	-	-
Delta	15	85	-	-
Okla.-Texas	50	50	-	-
Mountain	70	30	20	80
Pacific	38	62	3	97
United States	39	61	18	82

GRASS SILAGE PRODUCED PER 100 TONS OF HAY, 1948

By Crop Reporting Districts

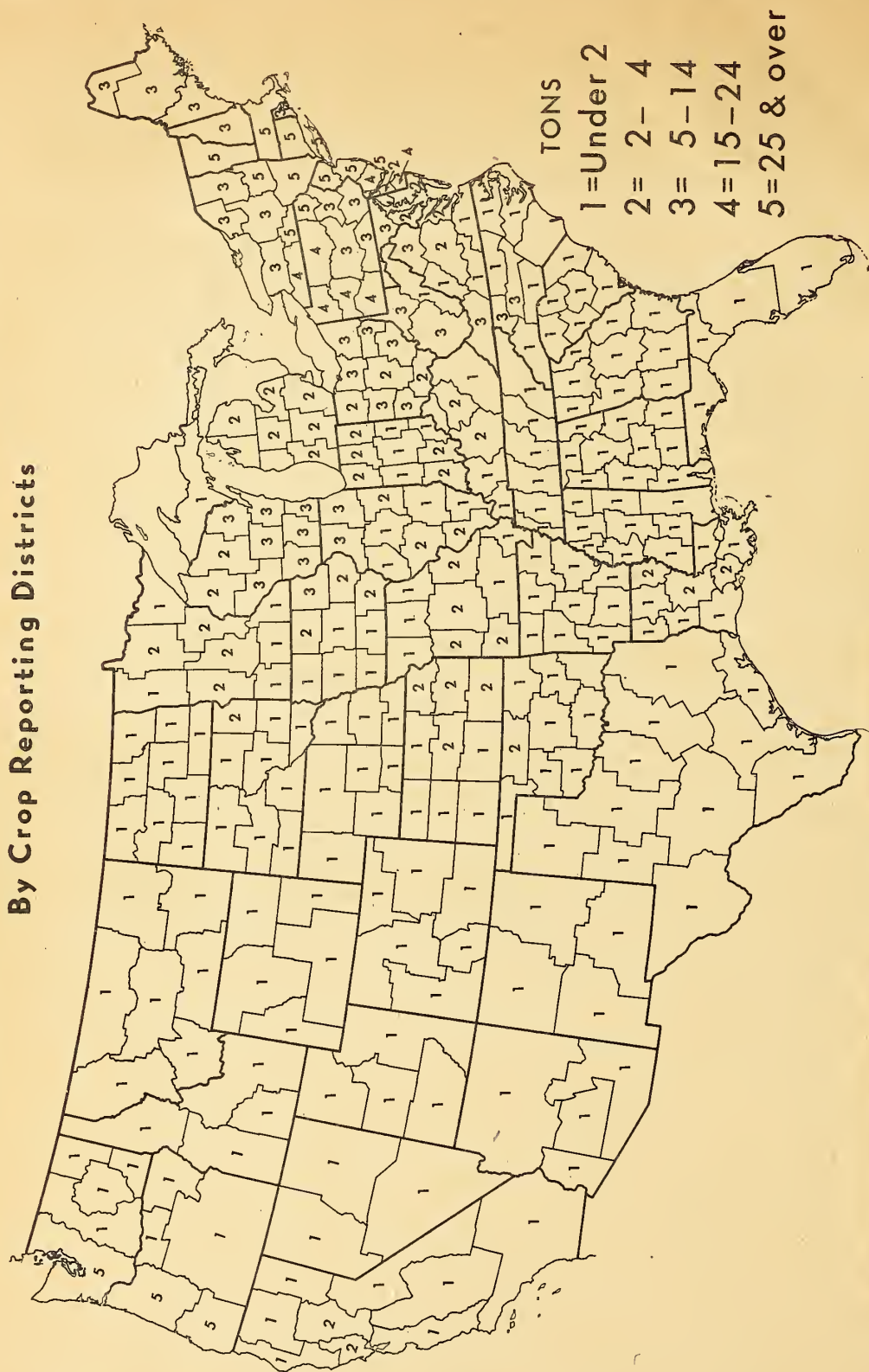
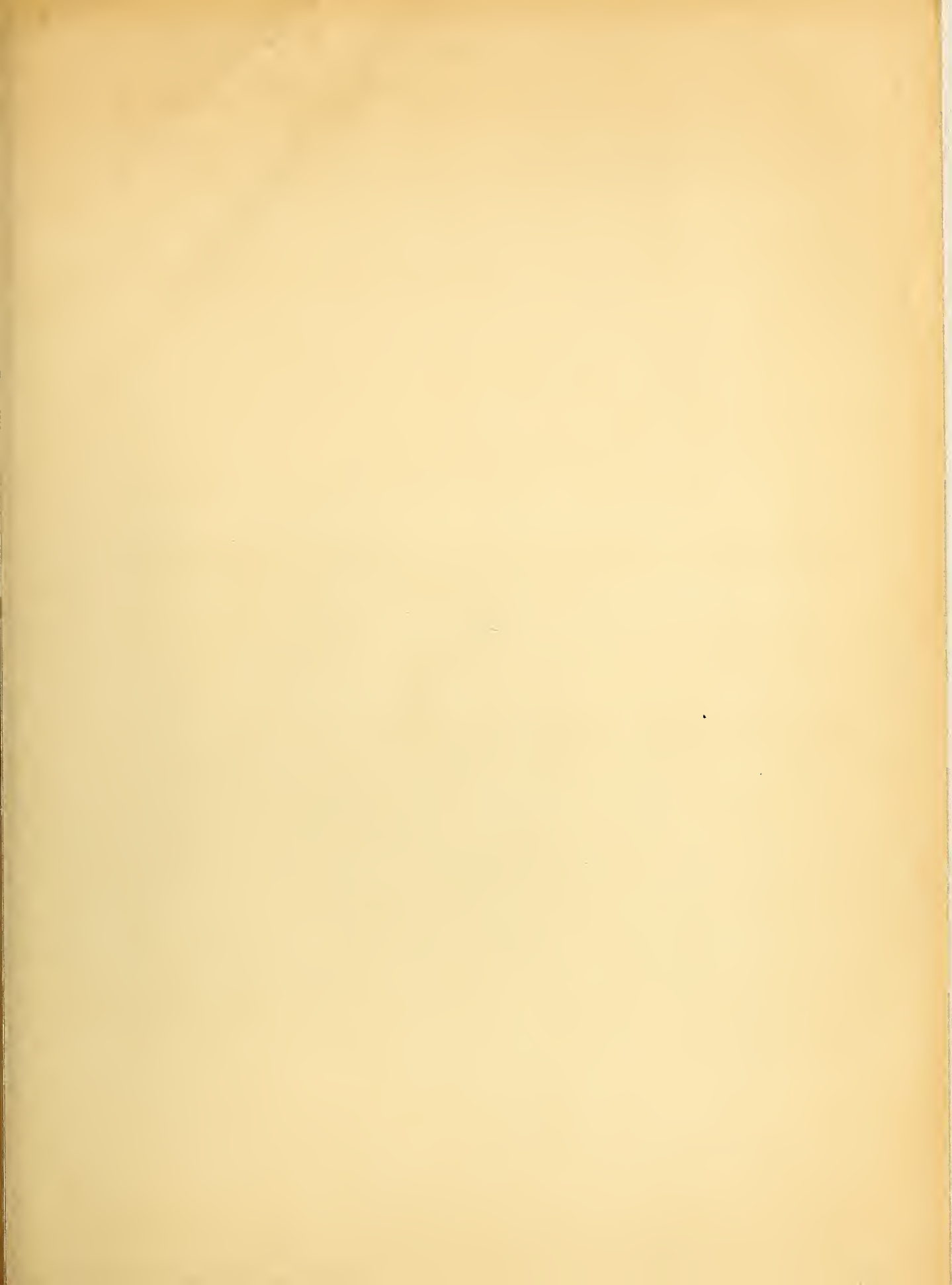


FIGURE 5



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